

ABSTRACT OF THE DISCLOSURE

The present invention provides new compositions and methods for preventing and treating pathogen infection. In particular, the present invention provides compounds having an anchoring domain that anchors the compound to the surface of a target cell, and a therapeutic domain that can act extracellularly to prevent infection of the target cell by a pathogen, such as a virus. Preferred target cells are epithelial cells. The invention provides compositions and methods for preventing viral diseases, such as influenza, using compounds having anchoring domains that can bind target cells linked to enzymatic activities that can act extracellularly to interfere with viral infection of target cells. The invention also provides compositions and methods for preventing viral diseases such as influenza using compounds having anchoring domains that can bind target cells linked to protease inhibitors that can act extracellularly to interfere with viral infection of target cells.

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